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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL WANNINGER and
ULRIKE JECK-PROSCH

Appeal 2010-002924
Application 10/058,832
Technology Center 1700

Before ADRIENE LEPIANE HANLON, LINDA M. GAUDETTE, and
MARK NAGUMO, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision¹ finally rejecting claims 10-18, the only claims pending in the Application.^{2,3} We have jurisdiction under 35 U.S.C. § 6(b).

The Examiner maintains (Ans.⁴ 3-4), and Appellants request review of (App. Br. 4), the following grounds of rejection⁵:

1. claims 10, 12, 13, 15, 16, and 18 under 35 U.S.C. § 102(b) as anticipated by Jacobson '684 (US 3,426,684, issued Feb. 11, 1969) or Jacobson '625 (US 3,403,625, issued Oct. 1, 1968); and

2. claims 11, 14, and 17 under 35 U.S.C. § 103(a) as unpatentable over Jacobson '684 or Jacobson '625 as applied to claims 10, 12, 13, 15, 16, and 18, further in view of Watson-Adams (US 4,378,256, issued Mar. 29, 1983) and Mosser (US 4,724, 172, issued Feb. 9, 1988).

We AFFIRM-IN-PART.

"The invention relates to a combustible shaped ammunition part, such as a propellant case or a propellant charge container, wherein the shaped

¹ Final Office Action mailed Feb. 3, 2004 ("Final"), 2-3.

² Appeal Brief filed Sept. 23, 2005 ("App. Br.").

³ The Final Office Action erroneously identifies cancelled claims 1-9 (*see* Amendment filed Nov. 24, 2003 (cancelling claims 1-9 and adding new claims 10-21)) as pending and finally rejected. (Final 1.) The Status of Claims section of the Appeal Brief indicates that only claims 10-16 are the subject of this appeal, and fails to identify claim 21 as cancelled (*see* Advisory Action mailed Oct. 19, 2004, entering the Amendment After Final filed July 6, 2004 (cancelling claims 19-21)). (App. Br. 2; *see also*, App. Br. 5 (heading I).) However, Appellants mention claims 17 and 18 in the discussion of the rejections. (*See e.g.*, App. Br. 8-9.) Therefore, we also view the rejections of claims 17 and 18 as appealed.

⁴ Corrected Examiner's Answer mailed May 1, 2008.

⁵ Both the Examiner and Appellants erroneously identify one or more of cancelled claims 19-21 as finally rejected. (*See e.g.*, Ans. 3; App. Br. 9.)

ammunition part contains an erosion-reducing agent.” (Spec. 1, ¶ 1; *see also*, *id.*, ¶ 5 (“It is an object of the invention to provide a shaped ammunition part, consisting of a combustible material that contains erosion-reducing admixtures.”).)

[T]he invention is based on the idea of using at least one oxide of one of the elements of rare earth, in particular La_2O_3 , CeO_2 , Y_2O_3 and/or at least one element of the 6th subgroup in the periodic system, especially MoO_3 or WO_3 , and/or poly oxy methylene (POM), or a combination of these agents as erosion-reducing admixture. The amount of this reagent(s) can range from 2 to 15% of the composition comprising the combustible shaped ammunition part.

(Spec. 2, ¶ 7.)

Independent claim 10 and dependent claim 11 are representative of the invention and are reproduced below from the Claims Appendix to the Appeal Brief:

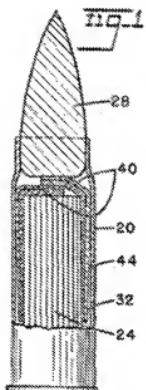
10. A combustible shaped ammunition part wherein the combustible shaped ammunition part contains an erosion-reducing admixture, comprising an erosion-reducing agent which is an oxide of one of the elements of rare earth or one of the elements of the 6th subgroup in the periodic system, or a poly oxy methylene (POM), wherein the shaped ammunition part contains 2 to 15% of one or more erosion-reducing agent(s).

11. A combustible shaped ammunition part according to claim 10, wherein the erosion-reducing agent is La_2O_3 , CeO_2 , or Y_2O_3 .

Claim 16, the only other independent claim, includes the same limitations as claim 10, but further requires that the “ammunition part is in the form of a propellant case or a propellant charge container.” Likewise, claims 13-15, which ultimately depend from claim 10, require that the

ammunition part is “in the form of a propellant case or a propellant charge container.”

Figure 1 of Jacobson ‘684 and Jacobson ‘625 is shown below:



“FIGURE 1 [above is] a cartridge having a metal case 20, a propellant charge 24 which may be comprised . . . of propellant strips or grains, and a projectile 28. Surrounding the propellant charge 24 is a wrap 32 which may be of suitable combustible material such as rayon, cotton, silk or the like.” (Jacobson ‘684, col. 3, ll. 61-66; Jacobson ‘625, col. 4, ll. 1-6.) “Wrap 32 is shown to have a coating[/additive layer] 44 on the surface facing propellant charge 24.” (Jacobson ‘684, col. 3, l. 75-col. 4, l. 1; Jacobson ‘625, col. 4, ll. 15-16.) “The additive . . . may consist of just [a] finely divided, powdery, inorganic substance, . . . or it may be the combination of such a substance and an organic vehicle, e.g. wax.” (Jacobson ‘684, col. 5, ll. 27-30; Jacobson ‘625, col. 5, ll. 43-46.) Effective inorganic compounds include tungsten oxide and molybdenum oxide. (Jacobson ‘684, col. 6, l. 77-col. 7,

l. 7; Jacobson '625, col. 7, ll. 17-26.) Instead of being coated on a wrap, the additive "may be dispersed by mechanical mixing throughout the propellant charge" or applied "in a continuous layer . . . directly on the charge." (Jacobson '684, col. 9, ll. 18-19, 25-26; Jacobson '625, col. 9, ll. 39-40, 46-47.) "In a 75-mm. gun where conventional triple base powder composed primarily of nitrocellulose, nitroguanidine and nitroglycerine (calorific value 850) was employed, optimum results were obtained utilizing an additive layer 44 that constituted about 3 percent by weight of the propellant charge." (Jacobson '684, col. 4, ll. 11-16; Jacobson '625, col. 4, ll. 25-31.)

The Examiner finds that Jacobson '684 and Jacobson '625 "disclose an additive for reducing erosion in a gun barrel by applying the additive to the cartridge, around the propellant charge (such as with a caseless cartridge), to the textile containing the propellant or in the wall of a consumable cartridge casing." (Ans. 3.) The Examiner further finds that the Jacobson '684 and Jacobson '625 additives may be an oxide of molybdenum or tungsten and can comprise about 3% of the propellant charge. (*Id.*) The Examiner concedes that Jacobson '684 and Jacobson '625 do not disclose the use of lanthanide metal oxides as recited in dependent claims 11, 14, and 17, but finds that one of ordinary skill in the art would have been motivated to use cerium dioxide as an additive to the Jacobson '684 and Jacobson '625 cartridges based on the teachings of Watson-Adams and Mosser. (*Id.* at 4.)

Appellants do not dispute these findings, but argue that the claims define over the cited references because in Jacobson '684 and Jacobson '625, the amount of additive is based on the weight of the propellant charge, whereas the claims recite an amount of additive which is based on the weight of the "combustible shaped ammunition part" (claim 10) or on the

weight of the propellant case or propellant charge container (claims 13-18). (App. Br. 8-9; *see also*, Reply Br.⁶ 6 (“As a matter of simple reasoning, the amount of 2-15% in the ‘shaped ammunition part’ of e.g. claim 1 [sic, 10], or of the ‘propellant case or container’ of Claims 12-16” [sic, 13-16] container is drastically less than 3% of the propellant charge.”); App. Br. 9-11 (wherein Appellants’ traversal of the second ground of rejection is limited to their contention that the applied prior art, alone or in combination, fails to teach or suggest inclusion of 2 to 15% of an erosion-reducing agent based on the weight of the “combustible shaped ammunition part” (claim 11) or on the weight of the “propellant case or propellant charge container” (claims 14 and 17).)

In response to Appellants’ argument, the Examiner asserts “[i]t is well-known in the bullet/cartridge making art that caseless cartridge[s] are common and that these caseless cartridges consist only of a pressed propellant. Thus the ‘ammunition part’ is the same as the propellant.” (Ans. 4-5).

Based on the respective positions of the Examiner and Appellants, the issues raised in this appeal are whether the Examiner erred in finding that Jacobson ‘684 and Jacobson ‘625 disclose (1) a shaped ammunition part containing 2 to 15% of one or more erosion-reducing agent(s) based on the weight of the shaped ammunition part (claim 10-12), and (2) a propellant case or a propellant charge container containing 2 to 15% of one or more erosion-reducing agent(s) based on the weight of the propellant case or propellant charge container (claims 13-18).

⁶ Reply Brief filed June 26, 2006.

The first issue turns on our interpretation of the claim language “combustible shaped ammunition part.”

During examination, claim terms must be given their broadest reasonable construction consistent with the specification. *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). “[E]ach claim does not necessarily cover every feature disclosed in the specification. When the claim addresses only some of the features disclosed in the specification, it is improper to limit the claim to other, unclaimed features.” *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 689 (Fed. Cir. 2008) (quoting *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006)); *see also, Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1381 (Fed. Cir. 2009) (“[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words of expressions of manifest exclusion or restriction.”). Substantive differences between the claims “can be a ‘useful guide in understanding the meaning of particular claim terms.’” *Arlington Industries, Inc. v. Bridgeport Fittings, Inc.* 632 F.3d 1246, 1254 (Fed. Cir. 2011) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005); *see also, Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006) (“[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous.”).

The Specification does not explicitly define the phrase “combustible shaped ammunition part,” but states that the phrase encompasses a propellant case or a propellant charge container. (*See* citations to Spec. *supra* pp. 2-3.) Appellants have not argued, nor does the Specification indicate, that a “combustible shaped ammunition part” is a term of art.

Appellants argue the claim phrase “combustible shaped ammunition part” does not read on a propellant charge alone, because a propellant charge is not “shaped.” (Reply Br. 5-6.) However, Appellants have not directed us to any disclosure in the Specification or other evidence which supports this interpretation of the phrase “combustible shaped ammunition part.”

In contrast, the Examiner’s interpretation of the phrase “combustible shaped ammunition part” as reading on a caseless cartridge consisting only of a pressed propellant appears to be consistent with the teachings of Jacobson ‘684 and Jacobson ‘625. (*See* Jacobson ‘684, col. 9, ll. 18-19, 25-26 and Jacobson ‘625, col. 9, ll. 39-40, 46-47 *supra* p. 5.) Moreover, to narrowly interpret the phrase “combustible shaped ammunition part” as limited to “a propellant case or a propellant charge container” would render superfluous this latter phrase, which appears in claims 13-18.

Having interpreted the claim language in dispute, we consider the first issue raised by Appellants: whether the Examiner erred in finding that Jacobson ‘684 and Jacobson ‘625 disclose a shaped ammunition part containing 2 to 15% of one or more erosion-reducing agent(s) based on the weight of the shaped ammunition part (claim 10-12).

As indicated above, Appellants do not dispute the Examiner’s findings that Jacobson ‘684 and Jacobson ‘625 disclose an erosion-reducing agent comprising MoO₃ or WO₃ in an amount of about 3% of the propellant

charge. (*See supra* p. 5.) Because we interpret the phrase “combustible shaped ammunition part” as reading on a caseless cartridge consisting only of a pressed propellant, we are in agreement with the Examiner’s finding that both Jacobson ‘684 and Jacobson ‘625 anticipate Appellants’ claimed shaped ammunition part containing 2 to 15% of one or more erosion-reducing agent(s) as recited in claim 10. As Appellants have not advanced any additional arguments in support of patentability of dependent claims 11 and 12, we are likewise not persuaded of error in the Examiner’s determination that these claims are unpatentable.

We turn now to the second issue in this appeal: whether the Examiner erred in finding that Jacobson ‘684 and Jacobson ‘625 disclose a propellant case or a propellant charge container containing 2 to 15% of one or more erosion-reducing agent(s) based on the weight of the propellant case or propellant charge container (claims 13-18).

Each of claims 13-18 limits the “combustible shaped ammunition part” to “a propellant case or a propellant charge container.” The Examiner found that Jacobson ‘684 and Jacobson ‘625 disclose shaped ammunition parts containing an erosion-reducing agent in an amount of about 3% of the propellant charge. However, as correctly argued by Appellants, the Examiner has not identified a teaching or suggestion of a propellant case or propellant charge container containing 2 to 15% of one or more erosion-reducing agent(s) based on the weight of the propellant case or propellant charge container. (*See generally*, Ans. 3-6.) Accordingly, Appellants have persuasively shown that the Examiner reversibly erred in rejecting claims 13-18.

In view of the foregoing, we AFFIRM the rejections of claims 10 and 12 under 35 U.S.C. § 102(b) as anticipated by Jacobson '684 and as anticipated by Jacobson '625; the rejection of claim 11 under 35 U.S.C. § 103(a) as unpatentable over Jacobson '684 in view of Watson-Adams and Mosser; and the rejection of claim 11 under 35 U.S.C. § 103(a) as unpatentable over Jacobson '625 in view of Watson-Adams and Mosser.

We REVERSE the rejections of claims 13, 15, 16, and 18 under 35 U.S.C. § 102(b) as anticipated by Jacobson '684 and as anticipated by Jacobson '625; the rejection of claims 14 and 17 under 35 U.S.C. § 103(a) as unpatentable over Jacobson '684 in view of Watson-Adams and Mosser; and the rejection of claims 14 and 17 under 35 U.S.C. § 103(a) as unpatentable over Jacobson '625 in view of Watson-Adams and Mosser.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED-IN-PART

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